

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/005824 A1

(51) International Patent Classification⁷: **F03D 3/06**,
3/00, F03B 17/06

(21) International Application Number:
PCT/CA2004/001001

(22) International Filing Date: 8 July 2004 (08.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/485,705 10 July 2003 (10.07.2003) US

(71) Applicant and

(72) Inventor: ALLAIRE, Serge [CA/CA]; 3355 Croissant
Francois-Brassard, Boisbriand, Quebec J7H 1L8 (CA).

(74) Agent: SMART & BIGGAR; Suite 3300, 1000 de la
Gauchetière Street West, Montreal, Quebec H3B 4W5
(CA).

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

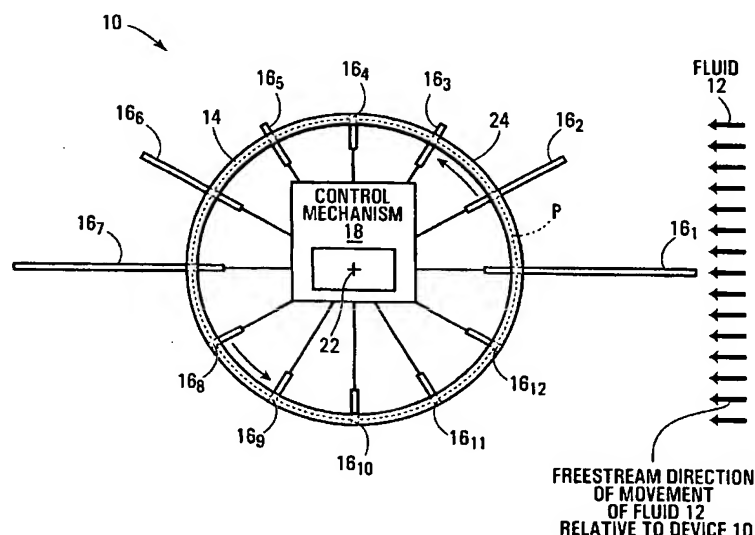
(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: DEVICE FOR INTERACTING WITH A FLUID MOVING RELATIVE TO THE DEVICE AND VEHICLE INCLUD-
ING SUCH A DEVICE



(57) Abstract: A device (10) for interacting with a fluid (12) moving relative to the device. The device comprises a body with an axis of rotation (22) and a periphery (24). The body is rotatable about the axis of rotation. The device also comprises a plurality of vanes (16i) associated with the body. Each one of the plurality of vanes is movable between an extended position relative to the periphery of the body and a retracted position relative to the periphery of the body. The device further comprises a control mechanism (18) coupled to the plurality of vanes for selectively moving each one of the plurality of vanes between the extended position and the retracted position during rotation of the body. A vehicle and a stationary energy generator including a device as described above are also provided.